

## REMARKS/ARGUMENTS

The rejections presented in the Office Action dated January 18, 2007 (hereinafter Office Action) have been considered. Claims 1-36 remain pending in the application. Reconsideration of the pending claims and allowance of the application in view of the present response is respectfully requested.

Claims 1-36 stand rejected under 35 U.S.C. §102(a) as being anticipated by U.S. Publication No. 2003/0153954 by *Park et al.* (hereinafter "*Park*").

To anticipate a claim, the asserted reference must clearly and unequivocally disclose every element of the claimed invention. A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. The identical invention must be shown in as complete detail as is contained in the claim. All claim elements, and their limitations, must be found in the prior art reference to maintain a rejection based on 35 U.S.C. §102. The Applicant respectfully submits that *Park* fails to teach each and every element and limitation of independent claims 1, 20, and 31, and therefore cannot anticipate these claims or any claims dependent therefrom.

The Applicant's independent claims 1, 20, and 31 each recite, among other features, some variation of determining a first indicated pacing interval based at least on a cardiac interval duration and a previous value of the first indicated pacing interval. The Applicant respectfully submits that unless *Park* teaches determining a pacing interval using both a cardiac interval duration and a previous value of the first indicated pacing interval, then *Park* does not teach at least the above recited claim element.

*Park* discloses a cardiac stimulation device that uses overdrive pacing to treat sleep apnea. ([0021]). *Park* discloses several embodiments of overdrive pacing, including setting pacing at preselected rate that is known to be higher than an intrinsic rate, or adding an increment to an intrinsic rate. ([0093]). *Park* also discloses scanning for a base overdrive pacing rate by decrementing the pacing rate until an intrinsic beat is sensed. ([0094-0095]).

None of the methods disclosed by *Park* for determining an overdrive pacing rate use both a cardiac interval duration and a previous value of the first indicated pacing interval.

For example, Fig. 6 illustrates a scanning method where cardiac cycles are tracked 606 and the atrial pacing rate is updated 608. Updating 608 of the atrial pacing rate “uniformly decrements the atrial pacing rate in an update atrial rate action 608.” [0094]. While updating of the atrial pacing rate as disclosed by *Park* includes using an atrial pacing rate modified by a decrement value, it does not use BOTH a previously indicated pacing rate and a cardiac interval duration to determine an atrial pacing rate. The decrement amount is not disclosed by *Park* as being a cardiac interval duration, sensed or paced. Rather, *Park* states that the decrement amount is a preselected value. ([0094], [0095]). *Park* does not indicate at any time that the duration of the interval is measured and/or used to determine the pacing rate.

Support for determining a first indicated pacing interval based at least on a cardiac interval duration cannot be found in *Park*’s description of cardiac cycle tracking 606. (Fig. 6). Even though *Park* tracks 606 cardiac cycles, cardiac intervals from these tracked cycles are not used to update 608 and determine the atrial pacing rate. Instead, the only information derived from *Park*’s tracking 606 is whether a cardiac cycle was inhibited (interrupted by an intrinsic beat). ([0094]).

*Park*’s atrial pacing rate can be updated 608 if a pacing is inhibited, but such an occurrence would only trigger an atrial rate update 608. (Fig. 6; [0094]). Once triggered, only the previous atrial pacing rate and a predetermined decrement amount are used to determine the updated pacing rate. ([0094], [0095]). The Applicant respectfully submits that even though a tracked intrinsic depolarization can trigger an update of the atrial pacing rate, *Park* specifically teaches that only the previous atrial pacing rate and a predetermined decrement are used to determine the updated atrial pacing rate. ([0094], [0095]). *Park* does not teach the use of a cardiac interval duration to update the pacing rate. Consequently, *Park* does not teach using both a cardiac interval duration and a previous value of the first indicated pacing interval to determine the overdrive atrial pacing rate.

In contrast, the Applicant’s independent claims 1, 20, and 31 each recite some variation of determining a first indicated pacing interval based at least on a cardiac interval duration and a previous value of the first indicated pacing interval. For at least the reason

that *Park* determines the atrial pacing rate based only on the previous rate and a preselected decrement, *Park* fails to teach at least the above recited element.

In the Response to Arguments, it appears that the Examiner points to *Park*'s teaching of tracking "atrial pacing and any intrinsic atrial depolarizations" over multiple cycles as teaching Applicant's limitation of determining the indicated pacing interval based at least on a cardiac interval duration and a previously indicated pacing interval.

The Applicant respectfully submits that *Park*'s intrinsic depolarization is not a substitute for a previously indicated pacing interval. An indicated pacing interval is not equivalent to an intrinsic depolarization. If an indicated pacing interval (such as a desired time interval, desired atrial heart rate) were equivalent to a rate at which intrinsic depolarizations were occurring, then there would be no need for pacing, departing from the teachings of *Park*. Accordingly, the rejection is further in error to the extent that intrinsic depolarizations are equated to previous indicated pacing intervals.

Furthermore, detection of an intrinsic atrial depolarization cannot be equated to a cardiac interval duration. Duration of an interval corresponds to an element of time and detection of an intrinsic depolarization cannot be equated to an interval of time. *Park* only teaches decrementing an atrial rate by a predetermined value, not on the cardiac interval duration as in Applicant's independent claims.

Dependent claims 2-19, 21-30, and 32-36, which are dependent from independent claims 1, 20, and 31, respectively, were also rejected under 35 U.S.C. §102(a) as being unpatentable over *Park*. While the Applicant does not acquiesce with the particular rejections to these dependent claims, it is believed that these rejections are now moot in view of the remarks made in connection with independent claims 1, 20, and 31. These dependent claims include all of the limitations of the base claim and any intervening claims, and recite additional features which further distinguish these claims from the cited reference. Therefore, dependent claims 2-19, 21-30, and 32-36 are also not anticipated by *Park*.

The Applicant does not acquiesce to Examiner's characterization of the asserted art or the Applicant's claimed subject matter, nor of the Examiner's application of the asserted

art or combinations thereof to the Applicant's claimed subject matter. The Applicant does not acquiesce to the Examiner's statements or conclusions concerning what would have been obvious to one of ordinary skill in the art, obvious design choices, common knowledge at the time of the Applicant's invention, officially noticed facts, and the like. The Applicant reserves the right to address in detail the Examiner's characterizations, conclusions, and rejections in future prosecution.

The Applicant respectfully asserts that the application is in condition for allowance. Authorization is given to charge Deposit Account No. 50-3581 (GUID.128PA) any necessary fees for this filing. If the Examiner believes it necessary or helpful, the undersigned attorney of record invites the Examiner to contact her to discuss any issues related to this case.

Respectfully submitted,

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